(19) World Intellectual Property Organization

International Bureau



1 (BT) B BINGGO I B BIGIR HADI BBIN BANK BANK BIN I IN BAGG BINL BANK BING BRAK IRLA BAN BANG BARA HIN IRRA B

(43) International Publication Date 24 June 2004 (24.06.2004)

PCT

(10) International Publication Number WO 2004/054088 A3

(51) International Patent Classification7: H01H 59/00, 59/00

H03B 5/12,

(21) International Application Number:

PCT/IB2003/005590

- (22) International Filing Date: 1 December 2003 (01.12.2003)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 02080219.5

10 December 2002 (10.12.2002)

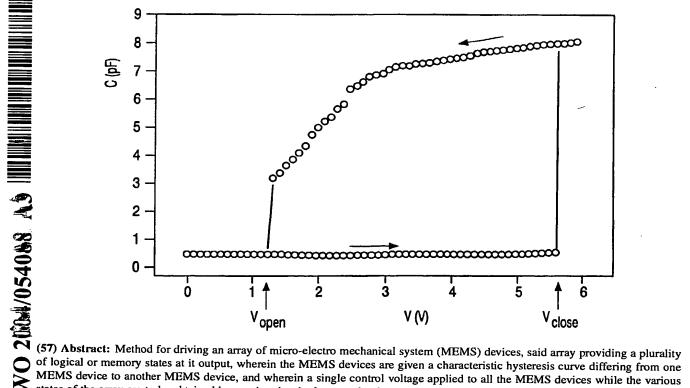
- (71) Applicant (for all designated States except US): KONIN-KLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): RIJKS, Theodoor, G., S., M. [NL/NL]; c/o Prof . Holstlaan 6, NL-5656 AA Eindhoven (NL). MATTERS, Marco [NL/NL]; c/o Prof.

Holstlaan 6, NL-5656 AA Eindhoven (NL). VAN BEEK, Jozef, T., M. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

- (74) Agents: DULJVESTLJN, Adrianus, J. et al.; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR. KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW). Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: DRIVING OF AN ARRAY OF MICRO-ELECTRO-MECHANICAL-SYSTEM (MEMS) ELEMENTS



MEMS device to another MEMS device, and wherein a single control voltage applied to all the MEMS devices while the various states of the array are to be obtained by varying the single control voltage.



Declaration under Rule 4.17:

as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, F1, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, F1, FR, GB, GR, HU, IE, IT,

LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

Published:

with international search report

(88) Date of publication of the international search report: 2 December 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A. CLASSIFICATION OF SUBJECT MAT IPC 7 H03B5/12 H0 H01H59/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

 $\begin{array}{ll} \mbox{Minimum documentation searched (classification system followed by classification symbols)} \\ \mbox{IPC 7} & \mbox{H01H} & \mbox{G02B} \end{array}$

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 674 180 A (MORRISON JR RICHARD H ET AL) 23 June 1987 (1987-06-23) column 7, line 40 - column 8, line 12 column 9, line 21 - line 27	1-12
A	EP 1 089 110 A (TOKYO SHIBAURA ELECTRIC CO) 4 April 2001 (2001-04-04) claim 1	1-12

Further documents are listed in the continuation of box C.	Patent family members are listed in annex.
** Special categories of cited documents: *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filling date *L* document which may throw doubts on priority claim(s) or which is caled to establish the publication date of another citation or other special reason (as specified) *O* document reterring to an oral disclosure, use, exhibition or other means document published prior to the international filling date but later than the priority date claimed	 "T" later document published after the international filling date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family
Date of the actual completion of the international search	Date of mailing of the international search report
7 September 2004	16/09/2004
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk	Authorized officer
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Libberecht. I

Information on patent family members

	٠	. /	'τ	n	Λ	1	1	^	_	_	_	_	
v		/	1	D	0	ری	/ (J	S	5	y	u)

Patent document cited in search report				Patent far member(s,	Publication date		
US 4674180	Α	23-06-1987	US	4959515 A	25-09-1990		
EP 1089110	A	04-04-2001	JP CN EP TW US	2001100121 A 1290000 A 1089110 A2 455695 B 6618034 B1	13-04-2001 04-04-2001 04-04-2001 21-09-2001 09-09-2003		